Spring 1991

The Computer Museum NEWS

"People and Computers" Opens June 29

Courtesy: International Business Machines Corporation Archives

Above is an early 1980s ad for the IBM PC, a computer featured in one of the milestones in "People and Computers."

"People and Computers: Milestones of a Revolution," a highly interactive, historical exhibition, opens June 29, 1991. Occupying a central position in the Museum's galleries, the 5,000 sq. ft., $1 million exhibition traces the evolution of the computer and its impact on people's lives. "Fifty years ago, computers didn't exist," says Dr. Oliver Strimpel, the Museum's Executive Director. "Today, computers help students, scientists, office workers, rock stars, cooks, doctors, and even reporters. 'People and Computers' will help the public understand how this happened and how computers have shaped their lives."

The exhibition marks the Museum's commitment to examine the humanities themes in the evolution of computer technology. The Museum applied for, and received, both planning and implementation grants from the National Endowment for the Humanities (NEH) amounting to $325,000. Principal Sponsors ($100,000-$274,999) are: Digital Equipment Corporation and International Business Machines Corporation. Sponsors ($25,000-$74,999) are: Apple Computer, Inc., Lotus Development Corporation, The Travelers Companies, and Unisys Corporation. Other Donors include: The MITRE Corporation, John Cocke, Jean Sammet, Allen Michels, Charles and Constance Bachman, and Douglas Ross.

Visitors to Explore Living History

Visitors will travel through "time tunnels" to nine milestones that trace the evolution of the computer from a handful of costly electronic giants in the 1940s to the millions of desktop computers and microprocessors in use today. The centerpiece of each milestone is a life-size re-creation of a computer environment typical of a major era. These vivid displays draw upon the Museum's rich collection of artifacts, and are amplified by interactive computer stations, films, and videotapes. "People and Computers" also examines the mythical roles into which the computer has been cast over the years by Hollywood and the public—from Frankenstein to faithful friend.

Each Milestone Tells About People

With a milestone called, "Of Clerks, Cards, and Collators," visitors enter a government office in the 1930s to see how hundreds of clerks manipulated the punch card machinery for the Social Security Administration. Milestone 2, "Born of the War," goes inside the huge Whirlwind computer developed under a contract with the Massachusetts Institute of Technology. Its hand-wired components convey the experimental nature of an original invention.

Continued on P. 4

NEH Grant Helps Museum Realize Mission

The support from the National Endowment for the Humanities for "People and Computers: Milestones of a Revolution" helps the Museum focus for the first time on the relationship between the evolution of computer technology and society and how each affects the other. The exhibition shows, for example, how market needs led IBM to create the System/360 family of computers so that software written for smaller systems would run on larger ones. This market need led to an important technological change, which in turn not only set industrywide standards but also helped The Travelers Insurance Companies process claims much faster for victims of disaster. The exhibition raises many other humanities themes, including whether or not the collecting of personal data on such a wide scale threatens individual privacy.

We hope that computer scientists will gain new insight into the impact of computers, that the general public will better understand the technology, and that students will appreciate how computers have shaped the history of the last half of the 20th century.

We hope you will enjoy "People and Computers" and we look forward to seeing you on June 29 when it opens.

Oliver Strimpel

Dr. Oliver Strimpel
Executive Director

World War II fueled the need for new occupations and technologies including the computer. Here, a crew at Systems Development Corporation works on the SAGE computer, based on the Whirlwind displayed in Milestone 2.

Gregory Welch Named Director of Exhibits

Photograph: Ted Groves

New Director of Exhibits Greg Welch is at the console of the UNIVAC 1, a milestone centerpiece in "People and Computers."

Gregory W. Welch became Director of Exhibits at The Computer Museum, January 1, 1991. The appointment was made by the Museum's Executive Director Dr. Oliver Strimpel after a rigorous national search.

"While the Museum interviewed outstanding candidates from across the country, Greg's imagination and vision in formulating exhibit concepts, getting them funded, and following through with their development convinced us that he should lead the Museum's exhibits program into the next decade," said Dr. Strimpel. "We were also impressed with the extraordinary job he has done in the last two years as Exhibit Developer for the Museum's next major exhibition, "People and Computers."

After being appointed, Welch reflected, "I am enthusiastic because The Computer Museum is uniquely positioned to lead the general public and the community of museums to a better understanding of computer technology and its role in shaping our society."

Since 1989, Welch has been developing "People and Computers," as well as overseeing its design and construction. In 1983 and 1984, he developed, designed and managed the construction of 5,000 square feet of The Computer Museum's first exhibits. In 1986, he created a temporary exhibit on calculators that tested new presentation techniques. "Computers in Your Pocket: The History of Pocket Calculators" later became a highly successful traveling exhibit, touring the United States under the auspices of the Smithsonian Institution Traveling Exhibition Service (SITES).

In addition to his posts at the Museum, Welch has consulted for Time-Life Books and the United States Information Agency in connection with computing history and technical exhibition projects. In 1986-1987, as a Henry Russell Shaw Fellow at Harvard University, he did a cross-cultural study of European science and technology museums by interviewing museum directors and curators and examining exhibit techniques.

The Computer Museum *NEWS* (Spring 1991) *Contributors:* Liz Armbruster, Gwen Bell, Janice Del Sesto, Dan Griscom, Kate Jose, Gillian Ley, Julie Oates, Christina O'Sullivan, Natalie Rusk, Oliver Strimpel, Brian Wallace, Greg Welch. *Editor:* Gail Jennes. *Design and Photography:* Ted Groves
Typefaces used: Futura, Geometric 211 and Kis, Dutch 721, courtesy of Bitstream; Photo processing courtesy of Boris Master Color; Typesetting courtesy of Allison Associates
Special Thanks to Cigna Systems Corporation for printing The Computer Museum *NEWS*

Exhibit Kits Take Off Across the Nation!

Courtesy, Franklin Institute

A boy finds out how tall he is from the Height Sensor, re-created from a Computer Museum Exhibit Kit at the Franklin Institute.

The Computer Museum is re-creating nine of its most popular and effective interactive exhibits into affordable kits to distribute to museums and science centers around the world. The Kits will be ready in August 1991.

The Exhibit Kits Program is made possible with over $130,000 in support from the National Science Foundation, the Hearst Foundation, and the American Association for Artificial Intelligence.

Six exhibits from the Kits Program are already on display at Philadelphia's Franklin Institute, the Discovery Center, Bridgeport, CT, and the Technology Center, San Jose, CA. In just a year, visitors have used them an estimated 200,000 times! One of them–How Tall Are You?–is one of the most popular exhibits in the Franklin Institute Future Center's computer exhibition, says Paul Helfrich of the Franklin Institute. The Height Sensor is "wonderful. People line up to try it out."

The Height Sensor doesn't have a keyboard or screen, but it has a voice, reflecting the sense of humor of Computer Museum Exhibit Engineer Dan Griscom and software engineer Peter McA'Nulty, who designed and built it. When encountering a tall person, it says, "Whoa! You're tall. You should call the Celtics." Sometimes the voice gets things wrong, but it always corrects itself just like a good computer should.

As a consultant to the Kit Program, Minda Borun, a noted exhibit evaluator from the Franklin Institute, devised a system to evaluate each exhibit being produced as a kit. The system involves both observing and surveying the people using the exhibits to see if they like, understand, and can use them. Changes are suggested and tried out and then further evaluated so that each exhibit meets its educational goals.

"It was a valuable process," says Education Coordinator Natalie Rusk. "Some exhibits that we thought worked well benefitted from modification, while people found others interesting and easy to use, just as they were."

Each Kit includes custom software and documentation, specialized hardware (when necessary), instructions for installation, maintenance and repair, recommendations for text and display, as well as educational materials. All the science center or museum adds is the computer equipment to run the program.

For more information, call The Computer Museum's Director of Marketing, Sue Dahling at (617)426-2800 ext. 396.

What each Kit does:

Two of the Kits introduce what computers do and how they are made to solve problems through programming:

How Fast Are Computers?
Lets visitors compare how fast they add figures with a computer to get a better grasp of the speed at which computers can do calculations. Visitors also see how computers' speed can be increased.

A Mouse in a Maze
Challenges visitors to write a computer program that makes a mouse find its way through a maze on the screen.

Three Kits explore innovative non-threatening ways for people and computers to communicate:

How Tall Are You?
Shows visitors how robots can use ultrasonic sensors to find the distance to obstacles, a crucial measurement for mobile robots to guide themselves.

Color the States
Invites visitors to learn how a computer can recognize their voices by using their knowledge of geography to color a map of the United States.

The Talking Computer
Explains to visitors in a computer generated voice how computers can talk with people by converting text into component sounds and using special circuitry to make the sounds. Visitors can experiment with the computer's diction by having it say whatever they type on the keyboard.

The remaining Kits illustrate the capabilities and limitations of artificial intelligence:

ELIZA: "The Computer Psychologist"
Shows visitors how a computer can be programmed to seem smarter than it is. As it mimics a Rogerian therapist, visitors can trick it into repeating itself.

Haggle With A Computer Fruit Vendor
Invites visitors to learn that a computer can follow a set of rules that make it seem surprisingly human.

HAL: Building an Intelligent Machine
Uses an interactive videodisc system to explore what would be involved in building a computer as smart as the fictional computer HAL in the movie *2001: A Space Odyssey.*

How Computers Play Games
Lets visitors challenge computers to tic-tac-toe or five-in-a-row to discover how a computer "thinks" when it tests moves according to a strategy it has chosen.

People and Computers *(continued from P. 1)*

"Computer for Sale!" introduces "that marvelous electronic brain" UNIVAC I, the first commercially available computer. General Electric paid $1 million for UNIVAC to keep track of the huge inventories needed to produce goods during the burst of consumerism in the 1950s. The next milestone, "Try to Tell It What to Do," explores the forces and people that came together to create the first programming languages.

"Computers Mind Your Business" re-creates an IBM System/360 at The Travelers Insurance Companies in the mid-1960s. This computer efficiently and accurately supplied homeowners with disaster relief.

In the early 1970s, minicomputers were small and affordable enough to be widely integrated into the workplace. "Doing It on the Spot and in Time" reconstructs two scenes where a Digital Equipment Corporation PDP-8 was used: an operating room where it helps surgeons identify tumor tissue and the lighting booth for *A Chorus Line* on Broadway.

In "Big Science and Supercomputers," the European Centre for Medium Range Forecasts relies on a CRAY-1 supercomputer. This late 1970s milestone illustrates the need for supercomputers that can quickly perform a vast number of calculations for scientific applications such as weather forecasting.

"A Computer on Every Desk" explores how the personal computer has changed people's lives. It focuses on the word-processing and calculating abilities of the IBM PC and the graphics capability of the Macintosh. The final milestone, "Computers, Computers, Everywhere," unveils a brightly lit electronics store and the microprocessors in everyday objects such as VCRs, thermostats, and toys. A computerized manikin or "animatron" helps visitors think about what they have experienced and predict the future.

A Contribution to the Humanities

"The Museum's exhibit interprets the history of computing in human and cultural terms, an important, timely subject," says Marsha L. Semmel, NEH Assistant Director for Humanities Projects in Museums and Historical Organizations.

The Museum convened a distinguished panel of academic consultants to help define the exhibition's content with the original $50,000 NEH Planning Grant: Dr. Daniel Bell, sociologist, American Academy of Arts and Sciences, professor emeritus, Harvard University; Dr. I. Bernard Cohen, professor emeritus of the history of science, Harvard University; Dr. Ruth Schwartz Cowan, historian of technology, State University of New York, Stony Brook; Dr. David Marc, historian of popular culture, Annenberg School of Communications, University of Southern California; Dr. Howard P. Segal, historian of science and technology, University of Maine; Dr. Merritt Roe Smith, historian of technology, Massachusetts Institute of Technology.

A Young Man and a Computer Make History

When Unisys senior analyst Joe Thompson, 58, saw his first computer 40 years ago, he was "frightened to death. It was huge and made lots of noise. The flashing lights and vacuum tubes were overwhelming."

It was June 1951. Joe, then 18, had just graduated from Boston Technical High School. He was about to become one of the first two "computer operators." The computer was the Whirlwind, the prototype for the SAGE air defense system (and centerpiece of the 2nd milestone in "People and Computers"). Designed at the Massachusetts Institute of Technology for the Office of Naval Research and the U.S. Air Force, it was the first vacuum tube, real-time computer with an operational core memory.

On April 20, 1951, the Whirlwind had been hooked up to an early warning radar system, and for the first time it successfully guided a single aircraft to within 1000 yards of its target.

Shortly afterwards, MIT systems programmer Jack Gilmore got the go-ahead from Whirlwind Project Director Jay Forrester to hire the first computer operators. "I thought high school grads bright enough to go to college but without the money could be trained to operate the Whirlwind. This would give them a valuable learning experience, while at the same time freeing up the engineers and mathematicians for other tasks," he says.

Thompson was "smart and learned well. The experiment was so satisfactory, we advertised for more high school grads in *The Boston Globe*," says Gilmore.

"Computers changed my whole life," Thompson says now. Before Gilmore approached him, Thompson had "no idea" what he was going to do.

While the Whirlwind "petrified" him at first, after a few months, it became "my friend. It's hard to explain," he says. "But I got to know the computer's inner workings, the sounds of its programs and how the lights were supposed to look." Thompson fed data and programs to the Whirlwind, checked its circuitry to make sure it was running correctly, gave the printouts to the programmers, and scheduled when programmers could run projects on the computer.

Thompson had no idea that both he and the Whirlwind were making history. "It was just an exciting job." And he had no idea how far either of them would go. The change in size, cost and power of today's computers is "amazing," he says. Thompson himself went on to learn programming and study engineering at MIT's Lowell Institute.

In 1955, he went to the Rand Corporation in Santa Monica, California, where he trained operators and did programming for the SAGE air defense system. Later, his division of Rand split off to become Systems Development Corporation and eventually part of Unisys. Today, at Unisys in Culver City, CA, as Manager of the Network Integration Office, he ensures that elements of the US Air Force satellite control program are being effectively implemented.

Says Thompson, "I still have the first slide rule that my mentor Jack Gilmore gave me 40 years ago. It's a precious thing."

The First Computer To Light Up Broadway

When lighting designer Tharon Musser accepted a Tony Award for *A Chorus Line* in 1976, she reportedly said she never could have achieved the precision and brilliance of lighting without Sam. "Sam," she said, was a computer.

The first computerized control board on Broadway, the LS-8 could flash lights faster than any engineer—and with absolute clarity and predictability. Designed by Gordon Pearlman and built by Electronics Diversified, the LS-8 was a Digital Equipment Corporation PDP-8 minicomputer hooked up to a button keyboard control panel, VT8E, and a digital to analog converter. (Sam is part of the 6th milestone in "People and Computers.")

In a dance show, lighting is crucial. *A Chorus Line* had 17 principal dancers and 127 cues. Until 1975, "people were still using mechanical dimmers and changing lights by hand on Broadway," recalls Pearlman. With the LS-8, *A Chorus Line* needed one electrician, not eight, to manage its 120 dimmers.

The first time Pearlman saw a PDP-8, he predicted that someday all theater lighting would be computerized. It was in the early 1970s, and Pearlman was an Assistant Professor and Technical Director for the University of North Carolina's Dramatic Arts Department. He bought a PDP-8 and peripherals, and, with no training, set out to build a lighting system for the university. By 1974, he had written the software and gotten a system working.

By July 1975, he had quit teaching and moved his family to Portland, Oregon, to join Electronics Diversified, which had decided to build his system. The company also was under contract to provide *A Chorus Line* with a lighting system for Broadway.

Recalls Pearlman, "The president of the company asked me if we could build the LS-8." Two sleepless nights later, Pearlman was on an airplane to New York with an enormous crate. Tharon Musser wouldn't let him leave until the show opened at the Shubert two weeks later.

Pearlman says now that he knew they were making history: "From that show on, every Broadway show used computers. Today, shows have 2,000 cues and 1,000 dimmers." The size of an office desk, Sam cost $100,000. Today's computerized board is no bigger than a keyboard, has three times the capability, and costs $2,000.

Computing "completely changed my life," says Pearlman. Once a lighting designer who taught college for $14,000, he now co-owns Entertainment Technology, Inc., one of the country's major lighting manufacturers.

When Sam (so named by Tharon Musser) was retired in 1987, after 12 and a half years of service, Musser reportedly said, "I shed a tear as it went out the door, and I said, 'Rest easy.'"

Courtesy: Entertainment Technology, Inc

Gordon Pearlman, designer of the first computerized lighting control board on Broadway, thinks The Computer Museum is a good home for his LS-8, known as "Sam."

In 1951, MIT systems programmer Jack Gilmore (standing on left) trained Joe Thompson, 18, (seated on right) to operate the Whirlwind computer. Thompson now says, "Computers changed my whole life."

UP & *Running*

Photograph D Bohl

Have Video, Will Travel

"We saw this really neat video in school," a 5th grader recently told her mother. It was The Computer Museum's *HOW COMPUTERS WORK: A Journey Into The Walk-Through Computer.* The educational video features the award-winning giant Walk-Through Computer™, four teenage students, and PBS host David Heil. According to *Incider Magazine*, "you can use it to teach the basics of computing to all ages."

The video, produced by the Museum with funding from Intel Corporation Foundation, has been widely distributed. Portions of it will be shown soon on the Learning Channel, a nationwide cable station with 20 million viewers. It is also aired on Michigan State University's Instructional Television Network so that students can use it as part of their introductory computer course.

The Computer Museum's Store Manager Christina O'Sullivan reports orders from as far away as Malaysia. About 95 percent of them are from schools and educators across the US and in Canada, she said.

Intel Corporation has distributed more than 700 videos to science and math teachers in Santa Clara, CA, Portland, OR, and Phoenix, AZ.

The video, including a Teacher's Guide, retails for $19.95 (Museum Members, 10 percent off). Call the Store at (617)426-2800 ext. 307 for quantity discounts.

The Computer Bowl

Sponsors Sign On!

Right now, a team from Apple Computer is finishing the set for the Third Annual Computer Bowl®. Played April 26, 1991, in the San Jose Convention (CA) Center, it is a benefit for the Museum's educational programs.

An Underwriter of the Bowl, Apple Computer is one of many sponsors who make the Bowl an industry classic. As a grand spoof of sports sponsorships, the Bowl has attracted more than $1 million in cash, products and services since 1988.

Joseph DiBlasi, Executive Director of the ACM, says that the ACM signed on as Bowl Presenter from 1988 through The Super Computer Bowl in 1994 "to further public awareness of the importance of information technology."

"The Bowl gives us a way to show our commitment to the high tech industry across the country and to the education of the industry's future leaders," says Mimi Macksoud of Price Waterhouse, Chair of Major Sponsorship.

The Official Sponsors are: AT&T Computer Systems, The Networked Computing Company; Andersen Consulting, The Systems Integrator; Bank of Boston, The Bank; BASF, The Diskette; Digital Equipment Corporation, The Open Systems Company; Intel Corporation, The Microprocessor Company; Kubota Pacific Computer Inc., The Graphics Supercomputer Company; Merrill Pickard Anderson & Eyre, The Venture Capital Firm; Metaphor Computer Systems, The End-User Computing Company; Price Waterhouse, The Accounting Firm; Robertson, Stephens & Co., The Investment Bank; Stratus Computer, Inc., The Transaction Processor; Visix Software Inc., The High Performance Workstation Software.

Media Sponsors include *BusinessWeek*, *Forbes*, and 18 industry publications.

Photograph: Ed MacKinnon

Who will the 1991 "Computer Masters of the Universe" be?

Look for the Bowl on the PBS TV show *Computer Chronicles*: Part I (May 7-13), Part II (May 14-20). Check local listings for exact dates and times.

Education

Interpreters Power Up!

Interpreters have always served important roles in the Museum, from answering visitors' general questions to reviving ailing exhibits. But they now have a new educational focus, says Education Coordinator Natalie Rusk.

To help Interpreters communicate with audiences of varying ages and backgrounds, Interpreter Education Coordinator Margaret Pezalla-Granlund has designed training sessions on exhibit content and educational approaches.

The staff has introduced families and school groups to new Investigation Activities with in-depth exploration of major exhibits, such as The Walk-Through Computer. On a recent visit, students from a school for the blind who had studied computer technology liked the hands-on experience of the Mysterious Parts Search. Interpreters also use "conversation starters," such as a dissected Nintendo machine, to interest visitors in exhibit themes.

There are plans to roll-out exhibits letting visitors track a boat's position using satellite information and experiment with a simulation of a planet's evolution.

The current Interpreter staff includes nine men and five women from diverse backgrounds. What they enjoy most is helping visitors learn.

Photograph: Ted Graves

Interpreter Adrian Thomas (wearing vest) says, "I really enjoy seeing people learn."

A Salute to our Supporters

Capital, Exhibit & General Support
3/90 - 2/91

Kapor Family Foundation
National Endowment for the Humanities
Alfred P. Sloan Foundation

100K or more

Digital Equipment Corporation
Intel Foundation
International Business Machines Corporation

50K or more

ACM
Apple Computer, Inc.
AT&T Corporation
C. Gordon Bell
Gardner and Karen Hendrie
Institute for Museum Services
Intel Corporation
Lotus Development Corporation
National Science Foundation

25K or more

Hearst Foundation
Kensington Microware Ltd.
Maxell Corporation
MITRE Corporation
The Travelers Companies

10K or more

AAAI
Advanced Micro Devices
Andersen Consulting
Apollo Systems Division, Hewlett-Packard Company Foundation
Bank of Boston
BASF Corporation
Owen Brown
Cirrus Logic
Burgess Jamieson
Kubota Pacific Computer
Massachusetts Cultural Council for the Arts & Humanities
Merrill Pickard Anderson & Eyre
Metaphor Computer Systems
Price Waterhouse
Robertson, Stephens & Co.
Stratus Computer
Thinx Software/Bell Atlantic
Unisys Corporation
VISIX Software Inc.

5K or more

Atex Publishing Systems
Bank of America
Lynda and Samuel Bodman
Borland International
John Cocke
Computer Graphics Pioneers
David Donaldson
Ed Feigenbaum and Penny Nii
William Foster
Joyce and Edward Fredkin
INFOMART
International Data Group
J.H. Whimey/Prime Computer
Kleiner Perkins Caufield & Byers
Microsoft Corporation
David and Linda Rodgers
Jean Sammet
Schrafft Charitable Trust
Stardent Computer

1K or more

Arthur D. Little, Inc.
Charles Bachman
Boston Computer Society
Howard Cannon
CIO Publishing
Cunningham Communication Inc.
Deloitte & Touche
Jay Forrester
Fortune Magazine
Steve Golson
Hummer Winblad Venture Partners
Hyams Trust
International Data Group
Theodore and Ruth Johnson
Thomas Marill
James and Mary McKenney
Brian McLaughlin
Robyn & Robert Metcalfe
Chris Morgan
David and Pat Nelson
Anthony Pell
Nicholas A. Petrinella
Douglas Ross
C.J. and Patricia Rotella
Edward A. Schwartz
Paul and Kathy Severino
Xerox Corporation

Corporate Members
3/90 - 2/91

Benefactor
($10,000 or more)

International Business Machines Corporation
Raytheon Company
Xerox Corporation

Patron
($5,000 or more)

Adobe Systems Incorporated
AT&T Computer Systems
Bingham, Dana & Gould
IEEE Computer Society
International Data Group

Sponsor
($3,000 or more)

Addison-Wesley Publishing
Amdahl Corporation
Automatic Data Processing
Bank of Boston
C. S. Draper Laboratories
Coopers & Lybrand
DECUS
Gaston & Snow
The Gillette Company
Liberty Mutual
Lotus Development Corporation
The Mathworks Inc.
Marathon Mail Management
McGraw-Hill, Inc.
Microsoft Corporation
NEC Systems Laboratories
The New England
Prime Computer
Ropes & Gray
Stratus Computer, Inc.
TASC
Travelers Insurance Company
United Technologies
Ziff-Davis Publishing

Contributor
($1,000 or more)

Aberdeen Group Inc.
Acer Corporation
Alliant Computer
Analog Devices
Aries Technology
Arnold White & Durkee
ASK Computer Systems
Aspen Technology
Avid Technology
Bank of New England
Banyan Systems
Batterymarch Financial
Bitstream, Inc.
Bolt, Beranek & Newman, Inc.
Boston Globe Foundation
Bull HN Information Systems
Bull Peripherals
Chase Manhattan Bank
Clearpoint Research
Cognos
Karen C. Cohen Associates
CompuServe
CONNECT, Inc.
Control Data Corporation
Corporate Software
Data General
Data Switch
Davox Corporation
DEC Professional
Deloitte & Touche
DGA Associates
Dow Chemical, USA
EMC Corporation
Emerald Systems
Ernst & Young
Etra
Eusey Press
Fenwick Partners
F.W. Dixon
Gensym Corporation
GreenTree Associates
Goldman, Sachs & Co.
Greylock Management Corp.
GTE Laboratories, Inc.
H. K. Graphics Inc.
Halliburton Services
Heidrick & Struggles
Index Group
Innovis Interactive Technologies
Interbase Software Corporation
Intermetrics, Inc.
John Hancock Mutual Life Insurance Co.
Keane Inc.
KPMG Peat Marwick Main
Maintech
MASS Microsystems
McKinsey & Company, Inc.
Medi-Tech
Micro-Mentor
Miller Communications
Miller Freeman Expositions
Milliken & Company
The Millipore Foundation
Mobil Corporation
New Directions, Inc.
NYNEX Corporation
Pell, Rudman & Co., Inc.
Price Waterhouse
Programmed Intelligence
The Research Board
Schubert Associates
Silicon Valley Bank
Summagraphics Corp.
TA Associates
Technology Research Group
The Composing Room of N.E.
Ungermann Bass
Viewlogic Systems Inc.
VideoLogic, Inc.
Walker, Richer & Quinn
Wavetracer
Wellfleet Communications
William M. Mercer
The Wollongong Group
ZBR Publications

Members and Annual Fund Contributors
3/90 - 2/91

Honorary Curator
($1000 or more)

Gordon & Gwen Bell
Edward Belove & Laura Roberts
Erich Bloch
Lynda Schubert Bodman
Richard P. Case
W. J. Cashman
David Chapman
Howard E. Cox
David Cutler & Deborah Girdler
David Donaldson
R. Patrick & Nancy Forster
Steven Golson
John Grady
Dennis Hayes
Gardner & Karen Hendrie
Theodore Johnson
David Kaplan
James L. McKenney
David & Pat Nelson
Nicholas A. Pettinella
Anthony D. Pell
John William Poduska, Sr.
Naomi Seligman
Grant & Dorrit Saviers
Robert Shafto
Michael Simmons
Dr. William & Joan Spencer
Herman Zapf

Donor
($500 or more)

Applied Technology Investors, Lawrence Brewster, Burlington Public Library, Deborah Coleman, J E. de Valpine, Margaret & Nick DeWolf, Ray Duncan, East Bridgewater Public Library, Richard E. Greene, Hanscom AFB, Hingham Public Library, Investors, Inc., Peter S. Kastner, Martin Kirkpatrick, Lawrence Public Library, Matrix USA, Brian McLaughlin, Moody Stecker Company, Lee J. Neal, Parrish Marketing Group, Edward G. Perkins, Paul R. Pierce, Col. James A. & Noreen Pitts, Audrey R. Reith, Dennis M. Ritchie, Richard Rubinstein, Edward Schwartz, Paul Severino, Hal B Shear, Irwin J. Sitkin, Ronald Smart, Joel D. Sugg, Lawrence Tesler, Leo R. Yochim

Supporter
($250 or more)

Richard L. Adams, Jr., Timothy Anderson, Dawn Banks & Robert Praetorius, Steve F. Barnebey, Bridgewater Public Library, Roger M. Buoy, Mr. & Mrs. Arthur Carr, Mr. & Mrs. William H. Congleton, Richard Corben, Ian Davison, Donald R. Daykin, Lucien & Catherine Dimino, Tom Eggers, Bob O. Evans, Walter J Gamble, Branko Gerovac, Robert Gilmore, Roger & Sally Gourd, William Graustein, Paul Green, Tom D. Hall, Keith Hare, Ted Hess, Hill & Knowlton, J. Milton Hutson, MD, Ernest & Elizabeth Jennes, David Korkosz, Bernard Lacroute, Paul J. Leach, John R. Levine, John & Judith Liebman, John N Little, Noyce-Labombard Family, Carl Machover, Julius L. Marcus, Barry Margolin, John R. Mashey, Andrew Mason, Tron McConnell, F.W McFarlan, Medfield Public Library, Charles R. Minter, Arthur & Sandra Morley, Morrill Public Library, Ray Mustafa, Bernard J. Nordmann, H. Edward Nyce, Octocom Systems Inc., Anthony & Marilyn Oertinger, Michael Pique, James N Porter, Daniel Rose, Sable Technology Corporation, Howard Salwen, Oliver & Katherine Selfridge, Richard G. Shoup, John F Shoch, Somerville Public Library, James Starkey, Max J. Steinmann, Bruce G Stewart, Richard Stewart, Robert E. & Diane Stewart, Juliet Sutherland & Jay Koven, Stephen Swerling, Warren G. Tisdale, Robert Trudel, Topsfield Public Library, Michael G. Uhler, Les Vadasz, Waltham Public Library, Hugh M. Wilkinson III, Mr. & Mrs. Andrew Wilson, William A. Wulf & Anita K Jones, David Wyse, Robert D. Ziff

Friend
($100 or more)

Ken R. Adock, Mark Allen, Richard Bahr, Dr. Mario R. Barbacci, Russell Barbour, Art Bardige, John C. Barstow, Leo Beranek Foundation, Alfred M. Bertocchi, Harvey Bingham, Joel Birnbaum, Stephen Blanchette, Jr., John W. Brackett, Michael Breslau, Daniel S. Bricklin, Frederick P. Brooks, Brown University, Peter Butler, Howard Cannon, Albert Christoph, Joel Clinkenbeard, Gary & Carole Cogswell, Daniel I. A. Cohen, Stephen Coit, Clement Cole, C. J. Considine, Steven Cooper, David Corbishley, Paul & Nancy Covell, Harvey G. Cragon, Michael Cronin, Henry J. Crouse, Bruce H. Curran, Paul Curran, David H. Dahlstrand, Charles Dana, Data Systems Associates, Gervaise G. Davis, Randall Davis, Donald R. Daykin, Gregory & Janice Del Sesto, Jack Dennis, Michael L. Dertouzos, Peter DeWolf, Dick Dunnington, Ian R. G. Edmonds, Tom Eggers, Arthur W. Einstein, Jr., Jon B. Eklund, William T. Elliot, End User Systems, Lucian J. Endicott, John Esbin, Evans & Sutherland, Neil Faiman, Francis Federighi, Hans K. Fiedler, Thayer Francis, J. Thomas Franklin, Daniel Freedman, Stephen J. Gaal, George Gilder, Robert Glorioso, Stephen Gross, Karl Guttag, P. M. Hart, Byron Hayes, Jr., Jim Hayes, Frank E. Heart, Leslie J. Hellenack, Ittai Hershman, Winston & Sarah Hindle, Kari Hintikka, Nancy S. Horie, Alfred H. Hopkins, Jr., Michio Horiuchi, Robert H. Ingham, John Ippolito, Charles Jortberg, Mr. & Mrs. Jeffrey Kalb, Paul & Carol Karger, George Keremedjieve, Gary Kessler, J.S. Kilby, Richard H. King, Stanley Klein, Mark Koretz, Alan Kotok, John R. Koza, Arnold Kraft, Thomas E. Kurtz, Joseph Lachman, John W. Lacey, Faith E. Lamprey, Joel Lamstein, John Langell, Curtis LaRock, Richard Lary, Bruce Laskin, Neal Laurence, Tsvi Lavi, Linda C. Lawrence, Grace V. Leahym, Michael Leroy, Walter J. Levinson, Joe Levy, Lawrence Levy, Tracy Licklider, Arthur D. Little, John D. C. Little, Reed Little, George W. Logemann, Carl D. Lowenstein, James F. Mackowiak, Michael Mahoney, Frank A. Manola, Julius L. Marcus, Barry Margolin, Melvin J. Mason, Paul & Kathy Mazonson, William & Vesta McLean, MathSoft, A. Maya, Pamela McCorduck, Robert McCormick, Thomas & Elizabeth McWilliams, Todd Medlock, R. W. Meister, Dale Marie Merrill, Sharon Merrill Associates, George Michael, Micro Net Data Systems, MOCO, Inc., Thomas H. Moog, James F. Morgan, Robert M. Morrill, Allen Moulton, Ellen Dana Nagler, Adeline Naiman, Isaac R. Nassi, Arthur Nelson, Cynthia L. Nelson, David Nelson, Arthur Ng, David Novak, Ocean Software Inc., Lawrence & Pauline Oliva, Robert K. Otnes, James H. Philip M.D., Robert Probasco, Robert W. Puffer, III, David P. Reed & Jessica Kenn, C.M. Riggle, Scott & Steven Reilly, Nicholas Reinhardt, Christopher Roberts, Ann Roe-Hafer, David Rose, Benjamin M. Rosen, Alexander Rossolimo, Jonathan Rotenberg, Richard R. Ruopp, Stephen Russell, Howard Salwen, Michael J. Samek, Michael Sand, P.B. Schechter, Walter Schmidt, Benn L. Schreiber, Mr. & Mrs. Earl Schweppe, Aaron Seidman, W. Lee Shevel, John J. Shields, Daniel Siewiorek, Diane J. Skiba, Casimir S. Skrzypczak, Donald Sorensen, William Steul, Jack Stevens, Linda M. Stilmack, David Strachan, Stephen Swerling, Robert Tannenbaum, David Tarabar, John Tartar, Teradyne, Charles Terry, Henry C. Thacher, Jr., Michael G. Thompson, Michael G. Tomasic, Joseph Traub, Charles Waite, Allan Wallack, Wendell Weatherford, Ralph O. Weber, Stuart Wecker, Eric Werme, Robert Wesley, Robert M Whelan, Jr., Robert Whiteside, George Whimey, Hugh Wilkinson, Joan Blout Wylie

In Kind Donations 11/89 - 10/90

Allison Associates, American Airlines, Analog Devices, Inc., Apple Computer, Inc., Atari Games, Bank of America, Bitstream, Inc., Boris Color Labs, Boston Coach, Boston Harbor Hotel, BusinessWeek, Cadence, Inc., Cigna Systems Corp., CIO Publishing, Claris Corporation, Cognex, Commonwealth Creative Group, Communications of the ACM, Computer Literacy Bookshops, Computer Reseller News, Computer Systems News, Computerworld, Coopers & Lybrand, Crown Industries, Inc., Data Translation, DEC Professional, DGA Associates, Digital Equipment Corporation, Eltech, Inc., The Fairmount Hotel, San Francisco, Farallon Computing Inc., Fenwick Partners, Fortune Magazine, G.W. Instruments, Inc., HP Professional, Information Week, InfoWorld, Inprint, Insignia Solutions, Intel Corporation, InterLAN, International Business Machines Corporation, Kensington Microware, Inc., Layout Design, Logitech Inc., MacApp Developers Association, MacroMind, Inc., MacWorld, MASS Microsystems, Inc., Jack McWilliams Photography, Microsoft Corporation, MIDRANGE Systems, Morse, Altman, Dacey & Benson, Munday and Collins Inc., Multi-Core, Inc., NEC, Network World, OWL International, Inc., Paracomp, Inc., PC World, Post Perfect, The Prudential, Renaissance Conference Company, Rourke Eno Paper, Silicon Beach Software, Inc., SPOT, Strategic Mapping, Inc., SuperMac Technology, Inc., Symantec Corp., TECHMART, Truevision, Inc., University of Washington, Unix Today, Upside, VAR Business, VAX Professional, Video Express, Videologic, Inc., Washington Software Association, World Trade Center, Boston

---

Board of Directors

Gardner Hendrie,
Chairman
Sigma Partners
Dr. Oliver Strimpel
Executive Director
The Computer Museum
C. Gordon Bell
Stardent Computer
Gwen Bell
The Computer Museum
Edward Belove
Lynda Schubert Bodman
Schubert Associates
Lawrence Brewster
Aspen Technology, Inc.
Richard P. Case
International Business Machines Corporation
David Chapman
Landmark Ventures Inc.
Howard Cox
Greylock Management Corp.
James Davis
Bingham, Dana & Gould
David Donaldson
Ropes & Gray
Jon Eklund
Smithsonian Institution
Edward Fredkin
Capital Technologies, Inc.
Richard Greene
Data Switch Corporation
Max Hopper
American Airlines
Charles House
Hewlett-Packard Company
Theodore Johnson
Consultant
David Kaplan
Price Waterhouse
Mitchell Kapor
ON Technology, Inc.
Fritz Landmann
CW Publishing, Inc.
Robert Lucky
AT&T Bell Laboratories
James McKenney
Harvard Business School
John A. Miller, Jr.
Miller Communications
Laura Barker Morse
Heidrick & Struggles
David Nelson
Fluent Machines, Inc.
Seymour Papert
MIT
Anthony Pell
Pell, Rudman & Co., Inc.
Nicholas Pettinella
Intermetrics, Inc.
John William Poduska, Sr.
Stardent Computer
Richard Ruopp
President Emeritus,
Bank Street College
Jonathan Rotenberg
Boston Computer Society
Jean Sammet
Programming Language
Consultant
Grant Saviers
Digital Equipment Corporation
Edward Schwartz
New England Legal
Foundation
Naomi Seligman
The Research Board
Paul Severino
Wellfleet Communications
Robert Shafto
The New England
Hal Shear
Research Investment Advisors, Ltd.
Michael Simmons
Bank of Boston
Irwin Sitkin
Retired
Aetna Life & Casualty
Casimir Skrzypczak
NYNEX Corporation
Ronald Smart
Digital Equipment Corporation
James Sutter
Rockwell International Corporation

We apologize for any inadvertent omissions from our donor list. Please inform us of any errors so that we may correct our records.

Upcoming Events

Events

Saturday, April 13, 1991: 1:30-3:30pm

Robo-Pong

Robots, created by MIT students, vie for the table tennis title. These LEGO Lendls play according to pre-programmed strategies, trying to sweep ping-pong balls to an opponent's court. Free with Museum admission.

Friday, April 26, 1991

The Computer Bowl

6pm-San Jose, CA, 9pm-Boston
Pre-game Warm-up Show
6:30pm-San Jose, CA, 9:30pm-Boston
The Game begins

The Bowl moves West as the East Coast tries to regain the title of "Computer Masters of the Universe." Live by satellite from the San Jose (CA) Convention Center to The Computer Museum and the University of Washington, Seattle. For tickets, call: (617)426-2800 ext. 399.

Thursday, July 4-Sunday, July 7, 1991:11am-4pm

Computer Animation Festival

The latest computer animation from around the world includes Karl Simms' "Panspermia" and "Visualizing Fermat's Last Theorem." Shows hourly. Free with Museum admission.

Exhibits

Monday, April 15-Sunday, April 21, 1991:
11am, 1:00pm and 3:00pm each day

Local Heroes: Kurzweil Personal Reader

A special exhibit for Boston's Museum Goers Month: The Personal Reader is a computer system that aids people who are blind or have reading difficulties. Explore its advantages and limitations with Museum staff. Free with Museum admission.

Through May 15, 1991

Science in Depth

A spectacular exhibition of three-dimensional images created from scientific data by (ART)^n, a group of artists and scientists at the Illinois Institute of Technology. Free with Museum admission.

Opens June 29, 1991

People And Computers: Milestones of a Revolution

Nine important milestones trace the evolution and impact of the computer in this highly interactive exhibition. Free with Museum admission.

Summer hours start Monday, July 1, 1991. The Computer Museum will be open daily 10am to 6pm/Fridays until 9pm.

WINTER: The Computer Museum is open Tuesday- Sunday, 10am-5pm. Closed Monday, except Boston school holidays and vacations. Closed Thanksgiving, Christmas and New Year's Day.
SUMMER: Open daily 10am-6pm, Fridays until 9pm.

ADMISSION: Adults $6.00, students and seniors $5.00. Half price Saturday 10am-noon. Free to Museum Members and children under five. For more information on exhibits or special events, call our talking computer at (617) 423-6758.

To Join:

Members get free admission for one year; The Computer Museum *NEWS*, a quarterly newsletter of Museum activities; the *Annual*, a richly illustrated journal of computer history; invitations to exhibit previews and member-only events; advance notice of exhibitions and lectures; a 10% discount on purchases over $5 in The Computer Museum Store.

Individual Memberships

☐ $30 One year
☐ $50 Two-year
☐ $20 One-year student*

Family Memberships

☐ $45 One-year
☐ $80 Two-year

For Family Memberships, please include names of immediate family members on a separate sheet of paper.

☐ I would also like to make a tax-deductible charitable contribution

Yes, sign me up! My check, payable to The Computer Museum, is enclosed in the amount of $__________. Or, charge my ☐ Mastercard, ☐ Visa, ☐ American Express.

Card# ____________________ Expiration Date __________
Signature ____________________
Name ____________________
Name for 2nd Family Card ____________________
Street ____________________
City/State/Zip ____________________
Telephone (_____) ____________________
Company Name ____________________
Street ____________________
City/State/Zip ____________________

☐ Please contact me about volunteering at the Museum.

Will your company match your membership? ☐ Yes ☐ No.
If yes, please send appropriate matching membership form.

*Please enclose verification

The Computer Museum

Museum Wharf
300 Congress Street
Boston, MA 02210
(617) 426-2800

Address Correction
Requested

Nonprofit Org.
U.S. Postage
PAID
Boston, MA
Permit No.55897